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BULLETIN OF THE DEPARTMENT OF EDUCATION
1921, NUMBER 5

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JUNIOR HIGH SCHOOL MANUAL

PREPARED BY A COMMITTEE OF FIFTEEN APPOINTED
BY THE COMMISSIONER OF EDUCATION



BOSTON
WRIGHT & POTTER PRINTING CO., STATE PRINTERS
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PUBLICATION OF THIS DOCUMENT
APPROVED BY THE
SUPERVISOR OF ADMINISTRATION.

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JUNIOR HIGH SCHOOL MANUAL.

I. INTRODUCTION.

The First Annual State Conference of Junior High School Administrators, held at Bridgewater State Normal School April 8, 9, and 10, 1920, passed a resolution requesting the Commissioner of Education to appoint a committee of fifteen or more members "to consider problems of junior high schools in Massachusetts, and to report on or before the next State Conference of Junior High Schools." In accordance with this request the Commissioner appointed the following committee:—

Arthur C. Boyden, Principal, State Normal School, Bridgewater.
Albert Candlin, Principal, Chestnut Street Junior High School, Springfield.
Arthur L. Doe, Principal, Western Junior High School, Somerville.
Philip Emerson, Principal, Central Junior High School, Lynn.
Joseph A. Ewart, Superintendent of Schools, Milton.
Oscar C. Gallagher, Superintendent of Schools, Brookline.
Charles C. Haines, Principal, Lewis Intermediate School, Boston.
Burr F. Jones, State Supervisor of Elementary Education.
George H. Lusk, Principal, Junior High School, Wellesley.
Raymond E. Pinkham, Principal, Wadleigh School, Winchester.
Fred A. Pitcher, Principal, Shurtleff Junior High School, Chelsea.
George F. Weston, Jr., Principal, Swan Junior High School, Medford.
William C. McGinnis, Superintendent of Schools, Revere.
Paul C. Scarborough, Supervising Principal, Newton.
Clarence D. Kingsley, *Chairman*, State Supervisor of Secondary Education.

This committee decided to draft a manual dealing with the most important problems in the organization and administration of junior high schools. The draft was prepared with great care and was presented for discussion, section by section, at the Second Annual State Conference of Junior High School Administrators, held at Bridgewater April 20, 21, and 22, 1921. After the conference the committee met again and revised its draft in the light of the discussion at Bridgewater. The report thus prepared, discussed, and revised constitutes this manual for junior high schools.

The committee believes that a single manual dealing with the administration of both junior and senior high schools would be helpful. The committee therefore recommends that the material in this manual and the material in the "Preliminary Draft of the Manual for High Schools," which was discussed at the State Conference of High School Principals in March, 1921, be used as the basis of such a comprehensive manual.

The committee desires to acknowledge especially the helpful criticisms of Prof. Alexander Inglis of the Graduate School of Education of Harvard University.

Frequent reference in this manual is made to the report of the Commission on the Reorganization of Secondary Education, entitled "Cardinal Principles of Secondary Education." The following reports of that commission have been issued by the United States Bureau of Education, and copies may be purchased, at the prices indicated, of the Superintendent of Documents, Washington, D. C. Remittances should be made in coin or money orders, as stamps are not accepted. A complete file of these bulletins should be kept in each junior high school available to the teachers. The first three bulletins in this list should be in the hands of every teacher, and it is recommended that they be discussed in teachers' meetings.

EDUCATION BULLETIN.	PRICES PER COPY (CENTS).	
	Less than 50.	50 or more.
1918, No. 35, Cardinal Principles of Secondary Education, .	5	3
1917, No. 51, Moral Values in Secondary Education, . .	5	4
1918, No. 19, Vocational Guidance in Secondary Education, .	5	3
1915, No. 23, The Teaching of Community Civics, . . .	10	5
1916, No. 28, The Social Studies in Secondary Education, .	10	5
1917, No. 2, Reorganization of English in Secondary Schools,	20	15
1917, No. 49, Music in Secondary Schools, ...	5	4
1917, No. 50, Physical Education in Secondary Schools, .	5	3
1919, No. 55, Business Education in Secondary Schools, .	10	5
1920, No. 1, The Problem of Mathematics in Secondary Education.	5	3
1920, No. 26, Reorganization of Science in Secondary Schools, .	10	3
1920, No. 35, Agriculture in Secondary Schools, . . .	5	3

II. DEFINITIONS.

1. TYPES OF SCHOOL SYSTEMS. — There is considerable variety in the number of year-grades in the school systems in the United States, and also in the number of year-grades in each division of the school system.

The types of school systems most common are —

(a) The 8-4 type, consisting of an 8-year elementary school and a 4-year high school.

(b) The 6-3-3 type, consisting of a 6-year elementary school, a 3-year junior high school, and a 3-year senior high school.

(c) The 6-6 type, consisting of a 6-year elementary school and a 6-year high school.

2. A HIGH SCHOOL may be defined as a school adapted to the needs of pupils of approximately 14 to 18 years of age.

3. A JUNIOR HIGH SCHOOL may be defined as a school adapted to the needs of pupils of approximately 12 to 15 years of age.

4. A SENIOR HIGH SCHOOL may be defined as a school adapted to the needs of pupils of approximately 15 to 18 years of age.

5. A JUNIOR-SENIOR HIGH SCHOOL is an organization in which a junior high school and a senior high are housed together in one building, or group of buildings, under one principal, but are so organized that there are two distinct student bodies.

6. A SIX-YEAR HIGH SCHOOL may be defined as a school adapted to the needs of pupils of approximately 12 to 18 years of age, organized as a single administrative unit with one principal, one faculty, and one student body.

7. TYPES OF HIGH SCHOOLS. — High schools are of two general types, comprehensive and specialized.

(a) A *comprehensive high school* may be defined as a school designed to discover and meet the needs of *all* pupils of high school age living within the contributing area.

(b) A *specialized high school* is a school designed to give a particular type of high school education to those pupils who need that type of education.

Comparatively few high schools in the United States offer as yet the full variety of work needed in order to make them

conform *fully* to the definition of a comprehensive high school given above. The large majority of school administrators, however, are earnestly striving to enlarge and diversify the offerings of the high schools so as to meet the needs of an increasing number of pupils living in the contributing area.

Reasons for favoring the development of comprehensive high schools rather than the establishment of specialized high schools are given in "Cardinal Principles of Secondary Education," Section XVI.

8. A *COURSE* is a subject, or a portion of a subject, to be taught in one year or a part of a year.

9. The *PROGRAM OF STUDIES* consists of all the courses offered in the school.

10. A *CONSTANT* is a course required of all pupils in any given year.

11. A *VARIABLE* is a course not required of all the pupils.

12. A *CURRICULUM* is an arrangement of courses, required and elective, designed for a group of pupils whose common aims and probable careers may properly differentiate a considerable part of their work from that of other groups in the school. (As will appear later in this report, the Committee recommends that the program of the junior high school be organized on the basis of constants and variables rather than on the basis of distinct curriculums.)

13. The *SCHEDULE OF THE SCHOOL* is a table showing the periods and rooms assigned for the work of the classes and teachers.

14. The *BELL SCHEDULE* gives the time when the bells are to be rung for the class periods and the other activities of the school.

15. Credit¹ for high school work may be expressed in *UNITS*, *CREDITS*, or *POINTS*. Their relative value is as follows:—

$$1 \text{ unit} = 5 \text{ credits} = 10 \text{ points.}$$

"A *unit* represents a year's study in any subject in a secondary school, so planned as to constitute approximately one-fourth of a full year of work for a pupil of normal ability.

¹ The scheme of credits here recommended, already in use in the senior high school, may be applied also in grade 9. The principal of a junior high school should determine the promotion of pupils from grade 7 to grade 8, from grade 8 to grade 9, and from grade 9 to grade 10.

To count as a unit, the recitation periods shall aggregate approximately 120 sixty-minute hours. Time occupied by shop or laboratory work counts one-half as much as time in recitation."

A *credit* represents one recitation period, or two shop or laboratory periods, per week for a year.

A *point* represents one recitation period per week for a half year, or its equivalent in shop, laboratory, or other work.

16. COURSES.¹ — A *unit course* is a course entitling a pupil to one unit.

A *half-unit course* is a course entitling a pupil to one half-unit.

A *supplementary course* is a course entitling a pupil to less than one half-unit.

III. PURPOSES OF EDUCATION.

No unit of organization can be viewed by itself alone. Its relation to the organization as a whole must be considered. A definite statement of the purposes of education should therefore precede any formulation of the problems of either junior or senior high schools.

The purposes of education consist of the objectives to be attained, the functions to be discharged, and the attributes to be inculcated.

1. OBJECTIVES. — The Commission on the Reorganization of Secondary Education throughout its report, "Cardinal Principles of Secondary Education," recognizes the following as the seven main objectives of education: —

Health.
 Command of fundamental processes.
 Worthy home membership.
 Vocation.
 Citizenship.
 Worthy use of leisure.
 Ethical character.

It holds that education should be focused for the most part upon these objectives; that they should be realized in the

¹ The scheme of credits here recommended, already in use in the senior high school, may be applied also in grade 9. The principal of a junior high school should determine the promotion of pupils from grade 7 to grade 8, from grade 8 to grade 9, and from grade 9 to grade 10.

education of every boy or girl; and that they should all extend throughout the entire length of secondary education.

2. FUNCTIONS. — Dr. Inglis, in his "Principles of Secondary Education" (pages 375-383), gives the following six functions of secondary education: —

(1) Adjustive or adaptive, by which an individual becomes able to meet social conditions, and to adapt himself to the changes that the progress of the world may make in conditions.

(2) Integrating (or unifying), by which an individual acquires the common knowledge, ideas, and ideals necessary to *all* members of democracy.

(3) Differentiating (or specializing), by which an individual develops his special gifts in order that he may serve society in specific ways.

(4) Propædæutic, by which an individual prepares himself for continued education which is to be built upon the foundations he is laying at present.

(5) Selective, by which an individual is directed toward educational endeavor to which he is adapted, and away from educational endeavor in which his mental limitations preclude profitable progress.

(6) Diagnostic and directive, by which an individual is guided toward the line of life activity in which he can do his best work.

The supplementary character of the specializing and unifying functions is set forth in "Cardinal Principles," Section XV.

3. ATTRIBUTES. — "Education in a democracy, both within and without the school, should develop in each individual the knowledge, ideals, interests, habits, and powers, whereby he will find his place and use that place to shape both himself and society toward ever nobler ends." ("Cardinal Principles," section II.)

These five attributes — knowledge, interests, ideals, habits, and powers — are essential in the realization of each of the seven objectives mentioned above.

For instance, an adequate program for the realization of health as an objective must provide for specific knowledge, interests, ideals, habits, and powers related to personal and community health.

Similarly, to realize good citizenship as an objective the school must inculcate specific attributes in this field. These attributes may be designated as civic knowledge, civic interests, civic ideals, civic habits, and civic powers.

IV. THE RÔLE OF THE JUNIOR HIGH SCHOOL.

The work of the junior high school should be directed toward each of the seven objectives, and contribute to the six functions mentioned above, and every subject should be so organized as to develop within its field each of the five attributes.

The years of the junior high school cover an important period of physical transition. During these years most pupils pass through the period of pubescence.

Again these years embrace the period of possible economic transition, when a pupil passes from a compulsory school attendant to a possible industrial worker. During these years, too, occurs the advance from the elementary to the secondary school.

The distinctive rôle of the junior high school, then, is that of a *transition* school. This transition should be natural, gradual, and effective. It should bridge the hazardous and objectionable gap existing under the 8-4 plan between the elementary school and the high school, — a gap due to a too sudden change in the aims, methods, and content of instruction, and in the character of the school organization. It should also recognize the difference in the age, in the case of the two sexes, at which the physical transition begins to show itself through attendant changes in mental, physical, and social interests, and should make suitable provision for each. It should provide a controlled environment to meet the expanding interests due to these different kinds of transition.

As a transition school the junior high school should —

1. Introduce gradually new subjects, demonstrating to the learner the value of the subject and constructing therefor an adequate apperceptive basis.
2. Introduce gradually new methods of lesson assignment and of learning.
3. Develop to an increasing degree the power of self-control and self-direction.

4. Increase the departmentalization of instruction, but only so rapidly as the pupils can profit by it.

5. Assure the advancement of pupils in subjects in which they are successful, and require the repetition, in case of failure, of only such subjects as are indispensable as a foundation for future instruction needed by that pupil.

6. Give pupils a broad outlook upon the world's work, and help them to ascertain their own aptitudes, interests, and abilities with reference thereto.

7. Provide progressive differentiation in studies.

8. Utilize all integrating agencies more and more consciously and purposefully as the time devoted to differentiation is increased.

V. ADMISSION.

In order that the junior high school may render its distinctive service to all the students in need thereof, the junior high school should "admit, and provide suitable instruction for, all pupils who are in any respect so mature that they would derive more benefit from the secondary school than from the elementary school." ("Cardinal Principles," Section XII.)

It follows from this principle that (1) the junior high school should admit all students who have finished the work of the first six grades, and (2) that it should admit and provide suitable instruction for practically all pupils who are thirteen years of age, and have an intelligence quotient of 80 or more, even though they may not have completed the work in the first six grades. Not having satisfied the statute requirements for working certificates, the latter pupils might be classified as *Grade 6 Special*.

It may sometimes be necessary also to *house* in a junior high school building children of an intelligence quotient of less than 80 whose ages warrant such placement, it being understood that these children are to be kept in special classes and not classified or treated as junior high school pupils.

In some school systems, especially where children are admitted to the first grade when very young, or where they frequently skip grades, we find many under-age pupils. The promotion of pupils to the junior high school who are both under age and immature is quite as unwise as the retention in the elementary school of either over-age or mature pupils.

Immature pupils can neither profit adequately by, nor contribute satisfactorily to, a school composed of pupils much more mature than themselves. More attention undoubtedly should be given to the age factor as a basis of determining the grade and the school for the pupil.

VI. RÔLE OF EACH YEAR.

To carry out the distinctive purpose of the junior high school as a transition school, the following aspects may well receive special emphasis in the three years of that school: —

7th and 8th years — *Enrichment and Testing.*

Establishing a basis for choices and exploring aptitudes and abilities, the tentative choices of variables being regarded as provisional or experimental choices.

9th year — *Carry on.*

Resulting in purposes clearly conceived and eagerly pursued.

VII. THE LEARNING PROCESS.

There may be distinguished three plans of instruction in the stimulation of learning by the pupil. In the order given they have been characteristic of successive epochs of educational emphasis. The radical change in passing from the first to the second and then to the third is a perfect index of the changed relations between teacher and pupil, and constitutes one of the most hopeful signs for the future.

Plan 1. — Recitation based on study outside the classroom.

Plan 2. — Recitation, assignment, and study in the classroom.

Plan 3. — Directed learning in the classroom.

Under plan 1 the work is conceived as learning the statements contained in the textbook by methods that the pupils acquire with little or no assistance. It assumes that the pupils have proper facilities for work at home, and that the accumulation of information is the chief end of education.

Plan 2 is found in many good schools. It emphasizes careful assignment of work, provides an opportunity for the teacher to observe the pupils when studying, so that he can improve the character of the assignment from day to day and can suggest the use of better methods of study, secures better

working conditions, and facilitates individual help for the slower students.

Plan 3 is preferable to plan 2 in most school work, because it unifies the learning process and permits the teacher to direct the thinking. It is essential for the socialization of attack and of discussion.

Development of power rather than merely the acquisition of knowledge is now recognized as the primary end of school training.

So long as the chief concern was the increase of information, the lesson period was largely given over to testing the pupil upon his preparation of the lesson assigned. Under a false application of the principle that "we learn by doing" he was thrown upon his own resources to discover and to meet the problems of the assignment. Under the disadvantages of the large study hall or of home conditions, often decidedly unfavorable for concentration, the lesson preparation was wasteful of time and effort, and the results were disappointing.

The common complaint of the high schools has been that pupils come to them not knowing how to study. It is now generally recognized, therefore, that there must be specific instruction in study methods.

Giving such instruction is one of the primary obligations of the junior high school. With this work properly done at this point, there will be a resultant increase in the efficiency of the senior high school. To make adequate provision for this work a longer program period is desirable.

In the seventh grade, or first year of the junior high school, the teacher must be a large factor in the activity of the class period. The assignment must be carefully made and the difficulties anticipated for the pupils. Under the leadership of the teacher all should work together through a large part of the hour. Testing to determine individual success will have its place, but will not monopolize the time. Purposeful teaching and assignment and co-operative study should be given largest emphasis at this point. The chief function of the teacher is to guide and stimulate the thinking process. The teacher must always keep in mind the progress of the group and of the individual.

Home study, when required, should not involve new principles, but should be confined to applications of problems already met in the class period.

As the pupil advances through the junior high school, the teacher should become a diminishing factor in the lesson preparation. The child should be thrown upon his own resources more and more in order to develop self-reliance and independence, but he should never be allowed to get beyond his depth by reason of too difficult an assignment.

Before the completion of the junior high school course the growing confidence and power of the pupil will make possible an increasing amount of independent study, both in school and at home, and will make easy the transition to the study requirements of the high school.

Hard and fast rules for the division of the period should not be made. The strong teacher can be trusted to make his own partition of the time. The weaker teacher must have the constant benefit of supervision and advice. In no way can the principal better demonstrate his efficiency than in the development of the effective use of the class period.

VIII. LENGTH OF CLASS PERIOD.

To provide for the kind of work indicated as desirable in the preceding section the class period should be not less than 60 minutes in length. A 60-minute period is well adapted to science laboratory work, freehand and mechanical drawing, home economics and shop work, and is the shortest period in which gymnasium work can be conducted, involving as it does changes in clothing, vigorous exercise, and a shower bath.

A school day of 6 hours gross makes it possible to provide during the week for 25 periods, averaging not less than 60 minutes, a daily lunch period of not less than 30 minutes, and a weekly assembly period and a weekly organization period.

A 70-minute period is preferable for some types of work, especially for gymnasium work. With the 70-minute period it is necessary either to have a school day longer than 6 hours gross or to reduce the number of periods to 4 per day. The latter can be done if certain subjects for which a 70-minute period is not necessary are put into divided periods.

IX. EXTRA CLASSROOM ACTIVITIES.

To develop certain civic qualities, to meet health needs, and to prepare for the worthy use of leisure, various extra classroom activities are of vital importance. The principal and teachers must give much time and thought to the organization and conduct of these activities, facilities must be provided, and a definite time allowance must be made in the schedule.

1. ASSEMBLY EXERCISES provide an opportunity for presenting varied programs having important educational values. They should include —

Talks by citizens, junior high school principal, teachers, and pupils, and senior high school principal, teachers and pupils, on such themes as junior Red Cross, thrift, social service, current events, citizenship, educational and vocational guidance, school clubs, and the appeal of the various courses in the senior high school.

Music by professionals, individual pupils, school orchestra, and glee club.

Dramatics by pupils illustrating customs of other nations and various themes of significance to pupils, such as the importance of a wise choice of vocation.

Class demonstrations showing the nature and value of subjects that may be elected.

Club demonstrations showing the work accomplished by the various school organizations.

Stereopticon and moving pictures of subjects of educational value.

In large schools it is advisable to have the assembly exercises conducted for groups containing 100 to 200 pupils, and to employ one or two teachers to devote their entire time to planning and conducting such exercises. These teachers should be chosen for their versatility, and they should become experts in this type of education. In small and medium sized schools it is customary to assemble the entire school at one time so as better to develop a sense of school unity and school spirit.

Whichever plan is used every pupil should have at least one assembly period per week.

2. CLUBS. — To develop interests that will contribute to the worthy use of leisure every pupil should enter into the work of some *one* club, but he should be given the largest possible freedom in the choice of a club. In order to make the largest possible appeal to the varied interests of the pupils these clubs should cover as wide a field as possible. In a small or medium-sized school each teacher should act as counselor or director of some club. In a large school a few of the teachers may act as assistant counselors or directors. One period each week should be set apart for club work.

The following partial list of clubs shows the variety of work which these clubs should be made to offer: —

Birds.	First aid.	Latin.
Boy Scout.	French.	Orchestra.
Camera.	Geology.	Poultry.
Camp cooking.	Glee club.	School newspaper.
Chemistry.	Girl scouts.	Sewing.
Chorus.	Hiking.	Short story.
Debating.	Home garden.	Spanish.
Drawing.	Home nursing.	Wireless.
Electricity.	Knitting.	Wild flower.

Obviously the work of such clubs as camera, hiking, wild flower, and geology cannot be restricted to the club period during school hours. Teachers directing these clubs can render a great service by giving of their after-school time, and will be abundantly rewarded for doing so.

3. LIBRARY. — A school library is one of the most valuable educational factors in a junior high school. Every school with ten or more teachers should have a trained school librarian who should devote at least half her time to the library. In a school of twenty or more teachers the librarian should devote all her time to the library.

In a small school having no school library systematic use should be made of the public library.

Every pupil in the junior high school should have at least one period per week scheduled in the school library or the public library, and should also be encouraged to make use of the library before and after school.

4. PHYSICAL EXERCISES.—The minimum allowance for physical exercises should be two periods per week, each at least 60 minutes in length, and this should be required of every pupil whose physical condition permits of such work. Five 60-minute periods are preferable. Every pupil should be required to report at the gymnasium with his class, but may be excused from participating if the physical director feels that his physical condition warrants his being excused.

The exercises should be conducted out of doors whenever weather permits.

In all schools where physical exercises are not required daily there should be setting-up exercises 10 minutes in length, twice every day. These exercises may be conducted by student leaders who are given special training for the work by the physical director. It is advisable to keep the groups small, not over thirty-five, and to have boys and girls in separate groups under leaders of the same sex.

Every pupil should have a thorough physical examination through the co-operation of the physical director, the school physician, and the school nurse at least once a year. A permanent record of the results should be kept. Corrective exercises should be prescribed as needed.

5. LUNCHEON.—If the large majority of the pupils live within one mile of the school, a noon period of not less than 60 minutes is recommended.

When pupils secure lunch at the school, the luncheon period should never be less than 30 minutes in length. Tables and seats should be provided, and the pupils should be required to eat in a leisurely manner and to observe all the amenities.

The teaching of cooking should not be routinized and exploited by the lunch-room demands, but the lunch room should be under the direction and supervision of the head of the home economics department. To encourage preparation of foods in family quantities in cooking classes, the product should be utilized in the lunch room whenever possible.

6. ATHLETICS.—School athletics, when effectively directed and supervised, are of great value in developing a healthy school spirit. To secure proper direction and supervision the athletics should be under the immediate charge of the physical

training teacher, or teachers, or some other member, or members, of the faculty.

¹⁰ In order that the largest possible number of pupils may derive the benefits from active participation, as many teams as possible should be formed in baseball, basketball, hockey, and track athletics. These teams may represent classes or even rooms, and inter-class and inter-room games should be encouraged.

Inter-school games should be used mainly for the purpose of stimulating the work of the class and room teams, and should not be made an end in themselves.¹¹ There is some difference of opinion as to the desirability of inter-school games between girls' teams, the objection being that it often results in over-excitement and overstrain, as girls generally take defeat more seriously to heart than do boys. If inter-school games are arranged for girls' teams the number of such games should be limited.

Great care should be exercised in the selection of coaches, and only suitable persons should be permitted to act as coaches. Pupils from the senior high school have served as coaches with good results.

X. STUDENT PARTICIPATION IN SCHOOL GOVERNMENT.

¹² Education for citizenship and leadership are primary aims of (junior) high school instruction. School participation in school government is an excellent agency for the achieving, in some measure, of these aims, because it gives children practical, everyday experience in the two ends sought:—

1. Leadership, through leading and directing companions.
2. Citizenship, through gracefully co-operating with student leaders.

A school should proceed cautiously in changing over from the traditional form of school control to that form where the pupils share the responsibility. A school should also distinguish between student co-operation and student self-government. No doubt should be left in any minds that the school heads are the final authority and that counselors are advisors; that they are co-operating and suggesting measures for the good of all. For these reasons "student co-operation in school

government" will probably be the phrase that will be least likely to upset the mental stability of the school children. In our opinion "student self-government" is a pernicious phrase, as it conveys the idea of the pupils having been granted a power greater than that of the school authorities.

It would be highly advisable for a school adopting this form of control to work out with the advice of the principal a constitution to be adhered to by both principal and pupils. This constitution should give to the principal the power of vetoing the acts of the council. Provision should be made in the constitution for the removal of a member of the council by majority vote of the council or by vote of the teachers and principal. The functions of the council should be to suggest and advise principal and pupils as to how the school may be improved.

The council should be composed of representatives from the different home rooms of the building. The members should be required to report to their respective home rooms the acts of the council and the reasons therefor. The principal or his representative should attend all council meetings. These meetings should be conducted strictly according to parliamentary procedure. The aim should be, *always*, education for citizenship and leadership. Student participation in school government is satisfactory only in so far as it accomplishes this.

XI. LENGTH OF THE SCHOOL DAY AND BELL SCHEDULE.

To carry out the purposes of the junior high school, a reasonably long school day is essential. It should be not less than 6 hours gross or 5 hours net, that is, 5 hours exclusive of opening exercises, setting-up exercises, and lunch or noon periods.

The school day should include:—

5 class periods, generally 60 minutes in length; or—

4 class periods, 70 minutes in length, some of which may be split for certain subjects.

1 or 2 periods for setting-up exercises, 10 to 15 minutes each.

1 luncheon period of 30 to 40 minutes, or a noon period of 60 or more minutes, the length depending upon local conditions.

There should also be a weekly assembly period and a weekly club period. To provide for these periods the class periods may if necessary be somewhat shorter and the setting-up exercises omitted in that session.

If the net school day is 5 hours or more, as it should be, the home study for junior high school pupils should be reduced to a minimum. There should be no class assignments of home work for grades 7 and 8, although special problems may be assigned to individual pupils or to groups of pupils. In grade 9 home work should not exceed $1\frac{1}{2}$ hours a day, and should not involve more than two lessons on any one day.

With five 70-minute periods, and possibly with four such periods, the home work can be eliminated in grades 7 and 8.

To facilitate the making of the schedule of classes, the class periods are divided into non-conflicting groups, as discussed in Chapter XIV. The periods in a given group are designated by a given letter, A, B, C, D or E.

The following schedules are suggested: —

BELL SCHEDULE NO. 1.

This may be called a *Fixed Schedule*, since the periods of the blocks come in the same order each day.

	Minutes.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
8.40	10	Opening exercises				
8.50	60	A 50 minutes	A	A	A	A
9.50	60	B 50 minutes	B	B	B	B
10.50	10	Assembly 40 minutes	Setting-up exercises			
11.00	60	C 50 minutes	C	C	C	C
12.00	30	Luncheon				
12.30	60	D	D	D	D	D 40 minutes
1.30	10	Setting-up exercises				E 40 minutes
1.40 to 2.40	60	E	E	E	E	Club 50 minutes

The morning periods are shortened on Monday for the assembly period, and the afternoon periods on Friday for the club period. The setting-up exercises are omitted Monday morning and Friday afternoon.

BELL SCHEDULE NO. 2.

This may be called a *Reversing Schedule*, since the periods of the blocks are in alphabetical order on Monday, Tuesday, and Friday, and in reverse order on Wednesday and Thursday.

	Minutes.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
8.40	10	Opening exercises				
8.50	60	A 50 minutes	A	E	E	A
9.50	60	B 50 minutes	B	D	D	B
10.50	10	Assembly 40 minutes	Setting-up exercises			
11.00	60	C 50 minutes	C	C	C	C
12.00	30	Luncheon				
12.30	60	D	D	B	B	D 40 minutes
1.30	10	Setting-up exercises				E 40 minutes
1.40 to 2.40	60	E	E	A	A	Club 50 minutes

A reversing schedule distributes the least desirable afternoon periods to various blocks.

In this reversing schedule it is easy to remember the composition of the blocks.

BELL SCHEDULE NO. 3.

This may be called a *Rotating Schedule*, since the periods of the blocks rotate on the various days.

	Minutes.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
8.40	10	Opening exercises				
8.50	60	A	E	D	C	B 50 minutes
9.50	60	B	A	E	D	C 50 minutes
10.50	10	Setting-up exercises				
11.00	60	C	B	A	E	D 50 minutes
12.00	40	Luncheon				
12.40	60	D	C	B	A	E 40 minutes
1.40 to 2.40	60	E	D	C	B	A 40 minutes
						Club 40 minutes

In this rotating schedule, also, it is easy to remember the composition of the blocks, — thus, a class assigned to block A comes Monday 1, Tuesday 2, Wednesday 3, Thursday 4, Friday 5. Block C comes Monday 3, Tuesday 4, Wednesday 5, Thursday 1, Friday 2.

This schedule distributes the fifth period to all the blocks, making it possible for any class to take a field trip beginning with the last period. It, however, places both assembly and club period on the same day.

XII. PROGRAM OF STUDIES.

Programs 1 and 2 are based upon the assumption that the week will contain 25 periods averaging not less than 60 minutes, and in addition the assembly period, class organization period, setting-up exercises, and noon or lunch period.

Program 1.

	Grade 7.	Grade 8.	Grade 9.
English, ...	5	5	5
Library, ...	5 { 1 4	5 { 1 4	5 { 1 4
Social studies, ...			
Mathematics, ...	5 { 3 2	5 { 3 2	5 { 3 ^a 2
Science, ...			
Foreign language, ^b	10 { 0 or 3 3 or 6 2 2	10 { 0 or 4 0 or 2 or 6 2 or 4 2	10 { 0 or 4 0 or 2 or 6 or 8 ^d 0 or 2 or 4 2
Practical arts, ^c			
Fine arts, ^e			
Physical training, ...			
Total, ...	25	25	25

In program 2 a foreign language is not offered until grade 8. Pupils likely to decide to go to a college requiring Latin would be advised to begin Latin in grade 8. This plan makes it unnecessary for any pupil to take two foreign languages in grade 9.

This program requires some work in practical arts in each year.

^a The mathematics in grade 9 should be differentiated to meet the needs of different groups of pupils. Commercial pupils would take commercial arithmetic.

^b Foreign language may consist of Latin, French, Spanish, German, but no school should attempt to offer a larger number of languages than it can offer effectively. A beginning course in any one language should not be offered at more than two different places in grades 7, 8, 9, and 10.

^c Practical arts may include manual training, home economics, agriculture, and commercial subjects, such as bookkeeping and typewriting.

^d The 8 periods of practical arts in grade 9 permit commercial pupils to take some manual training or home economics in addition to commercial work.

^e Under fine arts there should be included music and freehand and mechanical drawing.

Program 2.

	Grade 7.	Grade 8.	Grade 9.
English, ...	5	5	5
Library, ...	5 { 1 4	5 { 1 4	5 { 1 4
Social studies, ...			
Mathematics, ...	5 { 3 2	5 { 3 2	5 { 3 2
Science, ...			
Foreign language, ...	10 { 0 6 2 2	10 { 0 or 4 2 or 6 2 2	10 { 0 or 4 2 or 6 or 8 0 or 2 or 4 2
Practical arts, ...			
Fine arts, ...			
Physical training, ...			
Total, ...	25	25	25

Program 3 differs from program 1 in that it provides 5 periods for physical training and 2 periods for library, conference, and study, and is based on a 30-period week.

Program 3.

	Grade 7.	Grade 8.	Grade 9.
English, ...	5	5	5
Social studies, ...	5	5	5
Mathematics, ...	5 { 3 2	5 { 3 2	5 { 3 2
Science, ...			
Foreign language, ...	10 { 0 or 3 3 or 6 2 2	10 { 0 or 4 0 or 2 or 6 2 or 4 2	10 { 0 or 4 0 or 2 or 6 or 8 0 or 2 or 4 2
Practical arts, ...			
Fine arts, ...			
Library, conference, and study, ...			
Physical training, ...	5	5	5
Total, ...	30	30	30

XIII. HOME-ROOM ORGANIZATION.

The mechanics of administration often appear to be simplified by organizing home rooms so that the pupils taking the same variables may be seated together in one home room and go from class to class as a single unit. This plan, however, is objectionable because it leads to stratification on the basis of

subjects pursued. If pupils come to be known in all their work as college preparatory pupils, commercial pupils, etc., the teacher comes instinctively to regard early choices as fixed, and to lose sight of individual differences. The pupils themselves become prejudiced, and they also lack the broader contacts necessary for integration. Home-room classes may move as units in the constants and break up for the variables, if the variables for several classes (or in a small school for an entire grade) are scheduled so as to be simultaneous.

The danger of losing that personal relationship between the teacher and the pupil which obtains under the single teacher control of the elementary school, is minimized in the junior high school by considering the home room as a unit under the leadership of the home-room teacher. Whenever possible the home-room teacher should instruct the class in at least one subject.

To attain the desired unification of this group it must be organized in such a way that the spirit of true democracy obtains in all its activities, while the teacher maintains a wholesome and sympathetic guidance at all times. A definite time allotment must be made on the program for the distinctive home-room activities.

A home-room organization broad enough to do effective work and yet not too cumbersome will comprise the following officers: —

1. *President*. — The president is (1) the presiding officer at room meetings and (2) the teacher's proxy, assuming control in his absence and appointing the temporary teacher from the class.

2. *Vice-President*. — The vice-president assumes the duties of the president in his absence, and is also the business manager of the class.

3. *Secretary*. — The secretary is in charge of room reports, attendance, class bulletin board, temperature record, etc. He also acts as a reception committee of one to extend the courtesies of the class to visitors who may come to the room.

4. *Treasurer*. — The treasurer is in charge of the class funds. He is collector for any "drives" which may be undertaken, and has charge of all sales of tickets, etc., for school affairs as

need arises. He also acts as banker for the room on banking days.

The officers from each home room should be organized into a cabinet which will meet at regular intervals with the principal for the purpose of discussing the various problems which arise and the way in which the class or the school might be improved. As need arises the principal will call meetings of committees composed of the presidents and vice-presidents only, or the secretaries, or the treasurers, in order to discuss matters which concern those officers specifically.

XIV. MAKING THE SCHEDULE.

1. **BLOCK METHOD.** — A block method is now regarded as the only scientific and satisfactory method of making a junior or a senior high school schedule. It is the best way of providing satisfactorily for —

- (a) Promotion by subject.
- (b) Flexibility in assigning classes to teachers.
- (c) Flexibility in choice of variables for pupils.

To make a schedule by the block method (a) the periods of the week *must* be divided into several blocks, each containing the same number of periods, and (b) the time allotments for the subjects, or groups of subjects, *must* be consistent with the number of periods in the block.

In Chapter XI the 25 periods of the week are divided into 5 blocks each containing 5 periods.

In Chapter XII certain subjects have 5 periods each, and all other subjects are grouped so as to give 5 or 10 periods in each group.

2. **PARALLEL SECTIONS FOR PROMOTION BY SUBJECT.** — Since junior high school programs include few, if any, free study periods, promotion by subject in the junior high school makes impracticable certain methods that could be used in the senior high school having many free study periods.

To meet this difficulty certain schedules in grade 9 are made parallel to other schedules in grade 8, and certain schedules in grade 8 are made parallel to other schedules in grade 7; that is, the subjects or groups of subjects in one schedule come at

the same times as the corresponding subjects or groups of subjects in the other schedule.

The following Chart of Sample Parallel Schedules is based on the time allotments in programs 1 and 2 of Chapter XII, and the subjects, and groups of subjects, are designated as follows:—

E — English.

S — Social studies and library period.

M — Mathematics and science.

V — Variables, consisting of foreign language, practical arts, fine arts, and physical training.

In this chart —

Schedule 9-1 is parallel to schedule 8-1.

Schedule 9-2 is parallel to schedule 8-2.

Schedule 8-3 is parallel to schedule 7-1.

Schedule 8-4 is parallel to schedule 7-2.

Chart of Sample Parallel Schedules.

Schedules.	Block A.	Block B.	Block C.	Block D.	Block E.	
9-1	E	S	{ M	{ V	{ V	Parallel to 8-1
9-2	S	E	{ M	{ V	{ V	Parallel to 8-2
8-1	E	S	M	{ V	{ V	Parallel to 9-1
8-2	S	E	M	{ V	{ V	Parallel to 9-2
8-3	{ V	{ V	E	S	M	Parallel to 7-1
8-4	{ V	{ V	S	M	E	Parallel to 7-2
7-1	{ V	{ V	E	S	M	Parallel to 8-3
7-2	{ V	{ V	S	M	E	Parallel to 8-4

Other schedules in the school need not necessarily be made parallel, since any pupil having work in two consecutive grades can be given one of the above schedules.

3. PARTIALLY PARALLEL SCHEDULES. — In the preceding chart the schedules of 9-1 and 9-2 were *partially parallel*, that is, certain subjects, or groups of subjects, were simultaneous in the two sections, while other subjects were not simultaneous. Similarly 8-1 and 8-2, 8-3 and 8-4, and 7-1 and 7-2 were partially parallel.

This arrangement makes it possible for pupils taking different electives to associate in classes in the constants, — English, social studies, and science. It also makes it possible for one English teacher to have both 9-1 English and 9-2 English, which would be impossible if the schedules were completely parallel instead of partially parallel.

It will be noted also that 9-1 and 9-2 *do* have mathematics in the same block. This makes it possible to regroup the pupils in the mathematics period so that part of them will take one type of mathematics under one teacher, and another group will take another type under another teacher.

Similarly 9-1 and 9-2 have their variables in blocks D and E. This makes it possible to regroup these pupils when they have these variables in accordance with the variables that they take.

4. HOME-ROOM CLASSES NOT IDENTICAL WITH SCHEDULE SECTIONS. — A schedule section consists of all the pupils who follow, more or less closely, a given schedule.

As stated in Chapter XIII, home-room classes should be composed of pupils taking different variables, that is, no home room should be made up exclusively of pupils taking the same variables.

Two home rooms may be made up of pupils following two partially parallel schedules, each home room containing both boys and girls. It is then possible for each home room class to remain together for the constants and for the two classes to be regrouped for the variables. These variables of course may include boys' shop work and home economics.

It is not, however, necessary that a home room should be composed of pupils following schedules that are even partially parallel.

5. ASSIGNMENT OF CLASSES TO TEACHERS. — Under the block plan a teacher may be given any class in block A, any class in block B, any class in block C, etc.

XV. PROMOTION.

Promotion by subject is urged as one of the chief advantages to be derived from the junior high school organization. Assuredly no pupil should be required to repeat a course that he has satisfactorily completed. Means should be devised, how-

ever, to prevent (1) ragged work, whereby certain pupils lag behind in some subjects and forge ahead in others, and (2) the substitution of superficiality for thoroughness on the part of able students in their desire to "save time." To prevent ragged edges the study-coach organization to be described below is recommended. To secure broad and thorough work on the part of abler pupils it is recommended that they be encouraged to cut a wider swath than the less able students. This result may be secured by the plan of basic and supplementary assignments, whereby every pupil is required to master the fundamentals in each lesson, and is encouraged to do supplementary work whenever he can. Such supplementary work may consist of special investigations or problems, the results to be contributed to the class as occasion permits.

With the aid of the study-coach organization and the giving of basic and supplementary assignments, it should be possible to reduce failures to an absolute minimum (3 to 6 per cent), and at the same time keep the abler pupils working at their optimum speed. It is not recommended that any considerable number of pupils should spend less than three years in a three-year junior high school.

In accordance with the ideas expressed in the foregoing paragraphs, it is recommended:

1. That promotion in the junior high school shall be by subject. A pupil who has completed the work in a subject in one grade shall be promoted to the next grade in that subject.

2. That transfer of an over-age pupil in any subject from one grade to a higher one shall be effected when it is apparent to the principal that the pupil has obtained from the subject in that grade the maximum that he is capable of assimilating.

3. That pupils shall be promoted from the junior high school to the senior high school upon the recommendation of the principal of the junior high school.

4. That promotion shall be made at the end of a school year, a semester, or during a semester, when in the judgment of the principal such promotion seems to be for the best interest of the individual.

XVI. MARKING SYSTEM.

The marking system should be as simple as possible, and the symbols used should have well-defined and easily understood meanings.

The use of percentages, or of any numerical scale, should be discarded for the following reasons:—

(a) It is not possible to indicate degrees of attainment with such mathematical precision as is conveyed by a scale having 100, or even 10, to indicate perfection.

(b) The notion that a student should be promoted when, and only when, he has accomplished $\frac{7}{10}$, or any other uniform fraction, of the work fails to take into account the types of material involved. Some facts, principles, and relations must be mastered absolutely as tools. Partial knowledge will not avail. Other ideas are valuable but not pivotal. Furthermore, knowledge is only one of the five attributes to be inculcated. Habits, powers, interests, and ideals are of equal if not greater importance, but they cannot be measured in percentages.

To be satisfactory a system of marks should answer the following questions:—

Is the attainment in the subject —

(1) Of high excellence? Such as is ordinarily secured by only about 5 to 10 per cent of a class.

(2) Good and satisfactory? This ordinarily should mean work above the average. In grade 9 or in the senior high school this means a grade which would warrant the school in certificating the work for college entrance; or of equivalent excellence if the work is in a subject not ordinarily taken by pupils going to college.

(3) Such that the pupil may wisely proceed in the subject? This may be called a *qualifying* mark. In the case of subjects in which a thorough foundation must be secured in order that the pupil may undertake the work of the next year with reasonable success, this mark should not be given unless the work is distinctly good.

Even if a pupil has not mastered a subject so well that he may wisely proceed in that subject, it may be that he has acquired certain educational results, valuable for him, on

account of which he shall be given a passing mark. Many failures to-day are due to the belief on the part of the teacher that the pupil has not reached a standard such that he should take the next year's work in that particular subject. The junior high school is, however, an exploratory school, and a pupil should have some kind of credit for a course in which he has made an honest and sustained effort, and from which he personally has derived real benefit in terms of his own development.

Consequently, in case a negative answer must be given to the three preceding questions, the fourth question should be —

(4) Has the pupil secured results in his own education such that he should have passing credit for the course, even though he should not continue the subject?

A pupil of good native ability in any particular subject could not receive this mark in that subject, for if he applied himself diligently he would receive at least a qualifying mark.

It should be noted at this point that question (4) is radically different from the first three questions. It relates to the progress of the pupil in terms of his own personal development. The pupil of larger ability should be required to apply himself no less diligently than the pupil of lesser ability. The actual attainment of pupils may and will vary — “to whom much is given, of him shall much be required.” The school has a right to expect honest effort from each and every pupil, but it has no right to expect that all the pupils can reach the same standards of achievement. The first three questions ignore personal differences in ability, and are therefore objective, while the fourth question is subjective.

The following system of marks meets the above requirements and is therefore recommended: —

- | | |
|--|--|
| A — Superior work, | } In grade 9, of a quality warranting certification. |
| B — Good work, | |
| C — Fair work, entitling the pupil to proceed in that subject. | |
| X — Entitling the pupil to credit, but not entitling him to proceed in that subject. | |
| F — Failure. | |

XVII. RECORDS AND REPORTS.

An adequate system of records and reports is essential to give the public information concerning its schools, to give important data to the school department and to students of education, and to provide permanent records regarding individual pupils for reference when needed.

"The Classroom Teacher," by Strayer and Englehardt, gives an interesting diagram showing the parts of the school system that must be welded together by a record and report plan.

To satisfy the above needs and to facilitate the administration, the records and reports illustrated on the following pages are suggested. Other records and reports not having a definite relation to the organization and administration of a junior high school are omitted.

FORM 1. SCHOOL REGISTERS. — The school registers furnished by the State Department of Education contain the provisions of the law and explicit directions regarding the keeping of school registers.

FORM 2. PUPILS' PERMANENT RECORD CARDS. — A permanent "high school record card," $8\frac{1}{2}$ by 11 inches, has been designed by the Department of Education and can be purchased of the State Printers, 32 Derne Street, Boston, at \$4 per hundred. A sheet giving directions is furnished with each order. This record card provides for keeping certain valuable information not provided for on most cards. If any other system is used it should provide for all of the data.

Record cards should be kept in a fireproof vault, safe, or strong box. No new building should be constructed without such a vault. Schools occupying old buildings should provide either a safe or a strong metal box with lock and key.

It is of the utmost importance that these record cards should be accurately kept up to date, and that all entries should be legible and in ink. Inaccurate records are a source of great injustice to pupils, and lead to serious difficulties, especially where there is a change in the teaching force. (See discussion of marking system, Section XVI.)

FORM 3. TRANSFER SHEET. — To be made out in duplicate, one to be given to the pupil, and the other to be sent to the

office of the superintendent of schools in the city or town to which the pupil is going. These sheets are identical in form with the permanent record cards, and may be secured at the State Printers at \$2.25 per hundred.

FORM 4. PHYSICAL RECORD CARD. — Form 108, Strayer and Englehardt's School Record. Gives complete data — physical record, personal history, family history, record of advice to parents, results, etc. Published by C. F. Williams, Inc., 36 Beaver Street, Albany, N. Y.

FORM 5. REPORT CARD. (Trenton, N. J.). — Report cards should be sent to the homes of all pupils at least five times a year, examined and signed by the parent or guardian, and returned to the home-room teacher within three days. Report cards should be prepared in such a way as to convey to the parent or guardian a clear and intelligible idea as to the progress of the pupil. The marks should be cumulative, as that is the only way in which the parent can know the standing of the pupil at a given time.

FORM 6. INTERIM REPORTS. — (A) Possibility of better work card (Reading). (B) Poor work card (Medford). When a pupil's work is such as to call for special help or special attention on the part of the parent or guardian a special report should be sent immediately.

FORM 7. CLASS REPORT SHEETS. — In order that the marks to be given to the members of each class may be studied by the principal before they are recorded on the permanent record cards, the use of a class report sheet is recommended. This sheet should contain the names of the members of the class, and should contain as many columns as there are reports during the year. The marks that the teacher proposes to give should be entered and the sheet transmitted to the principal. If it appears to the principal that the teacher may be giving marks that are either too high or too low the principal should confer with the teacher, to the end that any error in judgment may be corrected before the marks are entered on the permanent record cards, on the report cards, or are made known to the pupils.

FORM 8. BIMONTHLY PROGRESS CARD. — At the end of each bimonthly period the teacher should file a card for each

class showing the work covered during the two preceding months. These cards should be preserved for reference. They may well be 4 by 6 inches and kept in a special drawer.

FORM 9. ANNUAL PROGRESS CARD. — A similar card for each course summarizing the work of the year should be made out by the teacher and filed with the principal. In schools where there are several sections in the same work the supervisor of the department may make out these cards in case the work covered by the various sections is practically the same. Otherwise a separate card should be filed for each section.

FORM 10. TEMPERATURE RECORDS. — In order to stimulate attention to the temperature of the classroom it is recommended that a temperature record be kept in each room. The record may well be made by pupil monitors.

FORM 11. DAILY SCHEDULE CARD. (Arlington.) — Has spaces for writing in subject, room number, and seat number for every period, on each day of the week. One card to be retained by the pupil, and the duplicate to be filed in the principal's office.

FORM 12. COMMENDATION CARD. (New Britain, Conn.) — Given to a pupil at any time, commending him for work in a subject or for some task performed in a creditable manner.

FORM 13. TEACHER'S MONTHLY REPORT. (Medford.) — To give the principal data necessary for making out the principal's monthly report for the superintendent's office.

FORM 14. PRINCIPAL'S MONTHLY REPORT. (Medford.) — To be compiled from form 13 and sent to the superintendent's office.

FORM 15. REPORT OF ABSENTEES. (Trenton, N. J.) — To be filled out by each teacher, giving the names of absent pupils for each period.

FORM 16. ABSENCE SLIP. (Medford.) — To be filled out by the parent certifying the cause of a pupil's absence.

FORM 17. DISMISSAL SLIP. (Rochester, N. Y.) — A form in duplicate, one part to be filled out by the pupil who neglects to bring a written request from his parent, the other part to be brought to school the following day giving the reasons for the pupil's dismissal from school and signed by the parent.

FORM 18. TARDINESS SLIP. (Rochester, N. Y.) — A form for a tardy pupil to be used like Form 16. With this form small slips of different colors are given the pupil to admit him to classes.

FORM 19. HOME-WORK REPORT. (Wellesley.) — To be used when credit is given for outside work in music. To be signed by the pupil, and certified by the parent and instructor.

FORM 20. JANITORIAL SERVICE CARD. (Rochester, N. Y.) — To be used by a teacher who wishes the janitor to correct some unsatisfactory condition, or to do extra work. To be filed with the principal and transmitted to the janitor if approved.

FORM 21. IN ABSENCE OF THE TEACHER CARD. (New Britain, Conn.) — Has blanks for indicating who conducted the class in the teacher's absence, the conduct of the class, and other remarks. To be signed by the secretary of the class.

FORM 22. RECORD OF PUPILS NOT PROMOTED. (New Britain, Conn.) — On one side of the card the teacher gives information concerning a pupil not recommended for promotion. The reverse side is filled out by the principal, indicating that he has checked the pupil's record and inability to do the work of the next grade.

FORM 23. INDIVIDUAL INFORMATION BLANK. (Rochester, N. Y.) — (A) Home-room teacher's report; (B) Students' report; (C) Parents' report; (D) Vocational counselor's report.

FORM 24. ELECTIVE BLANK. (Rochester, N. Y.) — Lists the courses offered in the junior high school. Has space for the parent's signature in approving the courses recommended for the pupil.

FORM 25. ASSIGNMENT TO GRADE AND DIVISION CARD. (Springfield.) — The subjects that the pupil is taking are written on one half of the card, on the other half the office fills in the subjects to be taken, and writes the period and room numbers opposite each subject. The home-room teacher checks the statements on the card.

FORM 26. WORK WANTED CARD. (New Britain, Conn.) — To be filled out by pupils who want work outside of school hours.

XVIII. EDUCATIONAL GUIDANCE.

In order that the junior high school may be a real transitional school, it must provide adequate educational guidance for all its pupils. Educational guidance must relate to all the objectives of education, of which vocation is only one. Educational guidance is therefore more inclusive than vocational guidance.

It should provide information for the teacher or director in regard to the powers, desires, ambitions, and possible extent of school attendance of the individual pupil.

It should provide information for the pupil in regard to the purposes of various subjects and curriculums in the school system; in regard to the opportunities in vocational, social, and avocational fields; and in regard to the physical, mental, technical and social training upon which the grasping of these opportunities rests.

It should arrange for a variety of educational contacts through the various extra-curriculum activities. It should furnish actual try-outs in a number of different lines of trade, business, and educational endeavor, in order that latent aptitudes may be awakened and predominant interest discovered.

It should bring all forces in the school to bear, to the end that continuance in school may be secured to the last moment that such continuance is profitable, and that entrance into another field may be as profitable for the individual's ultimate welfare as possible. In this particular field many organizations of public welfare will be glad to co-operate.

These considerations suggest in the junior high school the advisability of —

- (a) A director of educational guidance.
- (b) Opportunity classes.
- (c) Student clubs.
- (d) Talks by prominent citizens.
- (e) "Try-outs," either inside or outside of school.
- (f) Co-operation and correlation of work among departments.
- (g) Reasonable transfer of courses upon evidence of unwise choice.

Among the agencies that should be utilized for educational guidance the following may be specifically treated:—

1. VOCATIONAL CIVICS. — A considerable part of the course in community civics, which should be required of all ninth grade pupils, should be devoted to a study of vocations, or a course in occupations can be organized and taught as one of the social studies. This study should emphasize the contributions made to society by vocations, including both common occupations and professions. The two ideas to receive emphasis should be (1) the service to society rendered by those who engage in the vocation, and (2) the vocation as a means whereby the individual will find an incentive and an opportunity for the development of his latent powers, abilities, interests, and ideals.

Among the suitable texts may be mentioned —

Vocational Civics, Giles and Giles, Macmillan.

Occupations, Gowan and Wheatley, Ginn & Co.

Vocations for Girls, Laselle and Wiley, Houghton Mifflin Company.

Business Employments, Allen, Ginn & Co.

Suggestions may be obtained from "A Guide to the Study of Occupations," by Allen, published by the Harvard University Press.

2. ENGLISH COMPOSITION. — A part of the work in English composition each year should be devoted to vocational themes. This plan is described in "Vocational and Moral Guidance," by Jesse B. Davis, Ginn & Co.

The method is briefly described in United States Education Bulletin No. 2 for 1917, "Reorganization of English in Secondary Schools," pages 143-147.

3. EVERY SUBJECT should be so taught as to throw light upon some phase of the world's work. Teachers should keep this aim before them. For instance, in history, each student may make a study of the history of some industry or profession.

4. EXTRA CLASSROOM ACTIVITIES should reveal aptitudes and arouse interest in many aspects of the world's work.

The school paper may find journalists and reporters.

The library may discover librarians.

The managerial positions in athletics may discover managerial ability.

Assembly exercises especially may be used for talks by professional men and others regarding their vocations.

5. RECORDS, such as may be provided for on the back of the high school record card, should show the interests and intentions of pupils from year to year.

6. CONFERENCES with individual pupils should help them to clarify their own views.

7. HOME-ROOM TEACHERS should discuss with each pupil his successes and difficulties from time to time. When electives are chosen for the following year the whole question should be discussed with each pupil.

XIX. STUDY COACH.

The study coach will have no definite class or subject assignment.

Specific Duties. — (1) To help pupils who have fallen behind the regular work of the class, due to absence or failure to grasp the subject through class instruction.

(2) To assist those who wish, or are advised, to change courses, and are behind the present class in one or more subjects.

(3) To teach certain pupils how to study, particularly those in whom the power of application has not been developed.

(4) To provide for those who easily perform the work given the class and can take a more extensive treatment of the subject.

Special Qualifications. — Patience, thoroughness, exceptional versatility.

XX. TRAINING, QUALIFICATIONS, AND SALARIES OF TEACHERS.

The characteristic functions of the junior high school require the careful selection of teachers, since (1) early adolescence is a transition period in the school life of a child; (2) the instruction must be closely related to the activities of real life, as it includes fundamentals, enrichment, and prevocational studies;

and (3) departmental teaching includes groups of related subjects.

1. **QUALIFICATIONS AND PREPARATION OF TEACHERS.** — The factors to be considered are (1) personality; (2) professional preparation; (3) scholastic preparation; (4) vocational preparation; (5) practice or experience.

The *personality* of the teacher should include the power of leadership, and also the disposition and ability to co-operate with others in carrying out constructive plans of work. The teacher must command the respect and arouse the enthusiasm of the children, and at the same time have a genuine interest in the development of each child as a factor in society. Tact is a very important element in the personality of the teacher.

The *professional* preparation should include: (1) A study of the psychology of adolescence. This study should be associated with directed observation of children before and during the adolescent period. (2) The study of the plan of organization of the activities of the junior high school. (3) The organization of the subject-matter best adapted to meet the needs of this kind of a school, and the method of teaching it. (4) Supervised practice or experience in teaching children of junior high school age. (5) Certain of the prevocational subjects require special vocational experience and study.

The *scholastic* preparation should include (1) a broad general education, including the study of subjects related to those taught in the junior high school; (2) specialized preparation for departmental teaching. One-third of the time should be devoted to this element of preparation.

2. **TRAINING IN SERVICE.** — While this type of school is still adjusting itself, even the best preliminary preparation will need to be supplemented by a continued study of its problems: (1) Definitely organized faculty studies of the co-ordination of the teaching in the different departments, and of the organized activities of the school. (2) Supplemental study of subject-matter and of the methods of teaching. (3) Regular conferences of departmental groups of teachers and of directors of junior high schools.

3. **SALARIES.** — Teachers should receive salaries based on their qualifications, regardless of the schools in which they teach.

To provide proper instruction in subjects hitherto considered high school subjects, but now made part of the junior high school program, it is important that the teachers should have adequate qualifications, both in scholarly preparation and in experience.

XXI. SUPERVISION OF INSTRUCTION.

The purpose of supervision of classroom instruction is to establish a unity of effort throughout the school system, and to improve the methods and results of teaching. *Unity* of purpose does not mean uniformity of method and procedure.

The superintendent of schools should appoint supervisors of departments in the junior high schools. These supervisors may or may not be teachers in the senior high school.

In order to establish and maintain co-ordination between the junior high school and the senior high school the superintendent should conduct frequent departmental conferences of junior and senior high school teachers, supervisors, and principals.

The principal and supervisors should acquire and maintain a clear and accurate vision of the total series of results which are to be achieved by the organization for which they are providing leadership. The principal should develop and maintain in all members of his teaching staff a vision of the ends to be attained. The teachers should be allowed initiative in planning the details. The principal needs to inform himself thoroughly as to the processes to be performed in the attainment of each of the objectives. As leader of the junior high school group, the principal should delegate authority to his associates as fully as possible. He should understand that the responsibility for the proper performance of duties and the correct exercise of authority on the part of his assistants rests with him, and that he cannot, even if he so desired, escape responsibility in them.

The supervision of classroom instruction should be based on definite criteria for judging the subject-matter, methods, and results. The following points should be noted:—

(1) The adaptation of the teaching to the interests, capacities, and abilities of the pupils.

- (2) Conformity to the laws of learning.
- (3) Adaptation to the aims and purposes of the course.
- (4) Adaptation to the specific character of the lesson, *e.g.*, if the lesson is a lesson in literature, is the emphasis on literature or on something else?
- (5) Adaptation of the teaching to effective class management.
- (6) Other matters pertaining to class management.

XXII. LENGTH OF SCHOOL YEAR.

We recommend that the school year be not less than one hundred eighty days in length, with an additional period of six weeks devoted to the making up of deficiencies, to strengthening work, and to outdoor recreation.

XXIII. BUILDINGS.

The success of the junior high school depends, to a large degree, upon the building provided.

1. UTILIZATION OF OLD BUILDINGS. — The adoption of the junior high school plan need not be postponed until new buildings can be erected if pupils in the various schools can be so rearranged that those in the junior high school grades can be brought together in large numbers into one or more junior high schools. When, however, a junior high school is established in an old building, provision should be made for boys' shop work, home economics, physical training, and assembly exercises.

2. NUMBER AND LOCATION OF NEW BUILDINGS. — The number and location of new buildings for junior high school work should receive careful study in each community. The following general observations may be helpful: —

(1) *Economy and Efficiency of Large Buildings.* — One junior high school organization, even if it contains as many as 1,000 to 2,000 pupils, is far more efficient and economical than two smaller schools. The cost of building is less, fewer teachers are required, the salary of one principal is saved, duplication of equipment is avoided, and cost of fuel and janitorial service is reduced. Moreover, a greater variety of courses can be offered, and the provisions for physical training and club activities can be made far more attractive and effective.

(2) *Walking Distance*. — Pupils of junior high school age are really benefited by walking to and from school when they live a mile and a quarter, or even a mile and a half, from school. In fact, those junior high school pupils who live from three-quarters of a mile to a mile and a quarter from school are, on this account, more favorably located than those who live nearer to the school.

(3) *Contributing Area*. — In view of the foregoing considerations the desirable contributing area of junior high schools may be stated as follows: —

(a) In rural communities and small cities the economy and efficiency of the larger junior high school is so great as to warrant the enlargement of the contributing area by providing transportation for those pupils who can reach the junior high school without undue hardships and excessive cost in time and money.

(b) In medium-sized cities it may be stated as a general rule that there should be only one junior high school if 90 per cent of the pupils live within a radius of a mile and a half from the proposed school.

(c) In large cities of considerable area junior high schools should be so distributed that all thickly populated parts of the city will be within a mile and a quarter, or a mile and a half, from a junior high school.

3. RELATION TO ELEMENTARY SCHOOLS. — Opinion differs as to the desirability of having a junior high school under the same roof with an elementary school. It is, however, well established that when an elementary school and a junior high school occupy the same building, the junior high school should have a distinct faculty, a distinct student body, and should have most of their work localized in one part of the building.

4. RELATION TO SENIOR HIGH SCHOOLS. — Among the advantages in having a junior high school adjacent or near to a senior high school may be mentioned the following: —

(1) Much of the equipment can be used in common, thereby reducing the cost of installation, and at the same time making it possible to provide a wider variety of equipment than could be afforded for either school alone.

(2) The auditorium can be used in turn by the different schools.

(3) The teachers in the two schools can be more readily and more often brought into conference.

(4) Departmental meetings, consisting of teachers in junior and senior high schools, can be more conveniently held.

(5) Those pupils who, by reason of promotion by subject, ought to take a part of their work in the junior high school, and a part of it in the senior high school, are enabled to do so.

One of the best plans consists in providing separate buildings for the junior and senior high schools, and placing between them, and connecting therewith, a central building to contain the auditorium, gymnasium, and other facilities that may be used in common.

If the junior and senior high schools are in one building under a single roof it is very desirable that the work of each school should be localized in so far as practicable in separate parts of the building.

In a city having one senior high school and several junior high schools, it is desirable that one of the junior high schools be near the senior high school, so that junior high school pupils who should take a part of their work in the senior high school may be transferred to that junior high school.

5. SIX-YEAR HIGH SCHOOL. — In a community having not over 200 to 300 pupils in grades 7 to 12 it will generally be found more economical to house the two schools under a single roof. In the case of such a school most of the junior high school classrooms may well be on the first floor and most of the senior high school classrooms on the second floor, but the science rooms should be *en suite*, as should also the commercial rooms.

6. PLANNING JUNIOR HIGH SCHOOL BUILDINGS.¹ — The wise solution of the many problems involved in planning a new junior high school building calls for the combined wisdom of the school committee, the superintendent of schools, the principal of the junior high school, and the most competent school architect available. The character and effectiveness of the junior high school education that can be offered by any community for years to come is dependent, to no small degree,

¹ Much of the material in this chapter follows the treatment contained in the eighty-third annual report of the Massachusetts Department of Education.

upon the efficiency of the building erected. The facilities needed are many and varied, but the funds available are limited. Before asking an architect to draw plans, the superintendent and principal should study every phase of the problem. The State Department, too, can render no more important service to secondary education in any community than to assist in analyzing the needs and in drawing up a "program" for the building, such as is suggested at the end of this chapter.

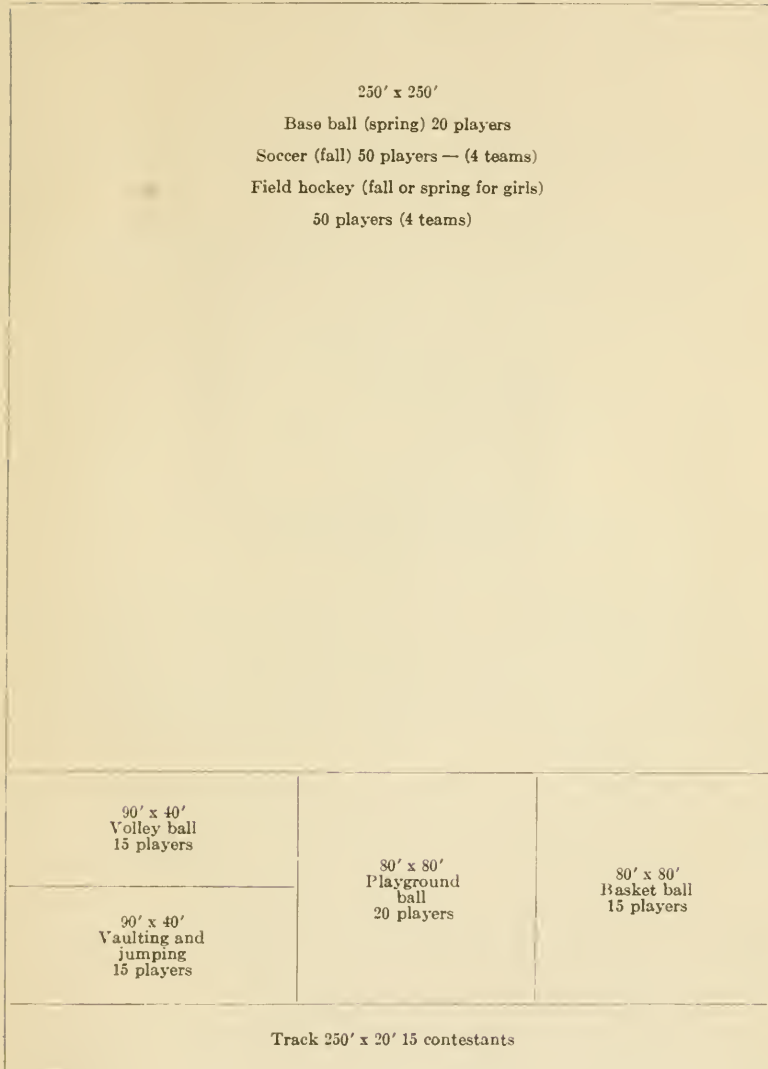
7. SELECTION OF A SITE. — The site should be large enough to provide for future expansions, to give a good setting for the building, and to afford sufficient room for varied physical training activities. The diagram on the next page shows that two acres is required for a varied program of outdoor games for 100 to 130 pupils at a time. Such a plot should be very near to the building, so that it can be used by physical training classes during school hours, whenever the weather permits. Therefore, to give proper setting for the building, to allow for future expansions, and to allow for outdoor activities, the site for a medium-sized high school should, if possible, contain about five acres, while three acres should be regarded as a minimum site for a small junior high school.

If the junior high school serves a large contributing area it should be fairly accessible to car lines, but no school should be placed so near to a thoroughfare likely to be occupied by a main car line as to involve excessive noise. In many communities the junior high school should become an educational center. It should in every case be so located as to embody the best standards of hygiene, both in the setting of the building and in its environment.

PLAN OF 2-ACRE PLOT FOR GAMES.

[Arranged for 100 to 130 pupils at one time in varied activities.]

North



South

8. SELECTION OF AN ARCHITECT. — The practice of selecting an architect for a school building through competition is now regarded as unwise, because the sketch plans fail to show whether the architect has an adequate knowledge of the many important details of school architecture. Instead, the architect for a high school should be selected on the basis of his study and knowledge of the requirements of a modern high school, and his success in supervising the erection of such a building. *School* architecture should be recognized as a highly specialized branch of the profession of architecture.

9. ESSENTIAL QUALITIES OF THE BUILDING ITSELF. — The following eight qualities may be regarded as essential to any modern junior high school building: —

- (1) Comprehensiveness.
- (2) Convenience.
- (3) Flexibility.
- (4) Safety.
- (5) Healthfulness.
- (6) Expansiveness.
- (7) Economy and efficiency.
- (8) Æsthetic fitness.

(1) *Comprehensiveness*. — The modern junior high school should provide for all the educational activities needed by all young people of junior high school age living within the contributing area. Many new activities are rapidly gaining recognition as essential.

(2) *Convenience*. — To secure convenience in a junior high school building study must be given to the correlation of the rooms, to the arrangement of the corridors, and to the location of the office and other administrative features. It may be accepted as a sound principle that the rooms of each department should be contiguous and connecting, and, when possible, on the same floor.

(3) *Flexibility*. — In every junior high school the number of pupils pursuing the different types of work varies from year to year. Therefore many of the rooms must be so constructed that they may be used for more than one purpose.

Since it is not possible to foresee the changes that will take place in education, the building must be so constructed that

some of the rooms may be changed in size without unnecessary expense. For this reason it is now accepted as absolutely essential that ventilating and heating ducts be placed in the partition along the corridors, instead of in the partitions between rooms. The latter partitions are then made non-supporting, and may be removed with the minimum expense.

(4) *Safety*. — The problems of safety have received extensive consideration. Among the important conclusions is the following: The heating plant should, whenever feasible, be placed outside the main walls of the building. Safety is not the only reason for this conclusion.

(5) *Healthfulness*. — Among the factors contributing to healthfulness are the following: —

(a) *Lighting*: Unilateral lighting is now accepted as essential in order to safeguard the eyesight of both pupils and teachers. The width of classrooms should not be less than 22 nor more than 24 feet. The windows should be arranged in batteries with narrow minions.

(b) *Travel*: Vertical travel should be reduced to a minimum. For this reason, buildings, except in the largest cities, should not contain more than three floors devoted to school purposes. In small communities the one or two story building is preferable.

(c) *Lunch*: Pupils should be seated when eating their lunch. Consequently, the lunch room should be large enough to accommodate all the pupils who will eat at any one time. In large schools the schedule may be so arranged as to provide for two or more lunch periods, each period to accommodate a portion of the pupils. To encourage pupils to take a longer time at lunch the room should have outside windows and should be made attractive.

(d) *Physical Training*: The gymnasium should be adequate in size and so lighted and ventilated as to constitute a "hall of health." For this reason the practice of placing the gymnasium in the basement or under an auditorium should be discontinued. The gymnasium should not be in a basement. It should extend to the roof, the height being equivalent to one and one-half or two ordinary stories. It is especially important to avoid a location of the gymnasium which does not provide for the free circulation of air, that is, there should

be large windows on more than one side. The provisions for shower baths should be such as to make it possible for every student to use the showers every time after gymnasium exercise.

(e) *Basements*: The use of basements for all school purposes should be discontinued. One of the best plans is to place the ground floor at grade, and to have an air chamber extending under the entire ground floor. Thus the ground floor may be kept dry.

(6) *Expansiveness*. — A building should be so planned that enlargement can be made without undue cost. Those facilities that cannot be readily enlarged, such as the auditorium and the administrative offices, should be built at the outset with reference to the ultimate capacity of the school.

Opinion differs as to the wisdom of constructing an auditorium, so far as school purposes are concerned, to seat over 1,000 pupils. A larger auditorium is not desirable for ordinary assemblies. By articulating the gymnasium and auditorium, as suggested later, the larger audience on special occasions can be cared for.

(7) *Economy and Efficiency*. — (a) *Multiple Uses*: In so far as every room is used every period, an increase in the variety of rooms involves but little increase in cost. To achieve this result the principle of multiple uses must be employed. By the principle of multiple uses is meant the planning of a room in such a way that when it is not needed for the distinctive purpose for which it is primarily designed it may advantageously be used for supplementary purposes. This principle sometimes involves providing a variety of equipment, and sometimes necessitates making the room somewhat larger than it would be if used for only one purpose. In spite, however, of the increased space and varied equipment, a real economy is often secured.

(b) *Standard-sized Class*: The adoption of 35 as the standard number of pupils to be accommodated in a room is in accord with sound principles of economy and efficiency. Classes of over 35 pupils should not be allowed in a junior high school.

(8) *Æsthetic Fitness*. — Art at its best is perfect adaptation to use. Æsthetic fitness, therefore, is to be achieved by the most thorough adaptation of the building to the purposes for

which it was intended. Moreover, the appearance of a building should be such as to dignify in the minds of the community the education conducted in the building. It is for this reason that æsthetic fitness is given as the final or culminating quality in a modern junior high school building. This fitness is to be secured not by disregarding the purposes which the building is to serve, but by interpreting and symbolizing those purposes.

10. ARTICULATING ASSEMBLY AND GYMNASIUM. — A most unique, efficient, and economical development in school buildings consists of the articulating auditorium and gymnasium. This plan is now in use in many schools in the country. The city of Peabody is the first city in Massachusetts to adopt this plan. The gymnasium and auditorium are placed on the same general level, both being on the ground floor. The gymnasium is at the rear of the auditorium, and the floor of the gymnasium is a continuation of the floor of the stage of the auditorium. The auditorium has a sloping floor. The gymnasium is separated from the auditorium by a sound-proof arrangement which in some schools consists of a movable partition and a fire curtain with a 4-foot air space between them. When opened up the gymnasium and auditorium can be used in conjunction, as follows: —

(1) A basketball or other game may be played on the gymnasium floor, a 4-inch net stretched between the gymnasium and the auditorium, and the spectators seated in the auditorium.

(2) For dramatics or for community chorus work the gymnasium may be used as an extended stage.

(3) For large audiences the speaker may occupy a rostrum at the rear of the gymnasium, and the entire gymnasium and auditorium be used by the audience.

By this arrangement the auditorium need not be constructed larger than is needed for the regular uses of the school itself, but the gymnasium and auditorium may be thrown together for the special occasions when a larger hall is desired.

11. PROGRAM FOR A JUNIOR HIGH SCHOOL BUILDING. — Before the architect begins to draw plans he should be given programs indicating specifically the accommodations to be provided. The *program of rooms for instructional purposes* may well be put into tabular form, as shown on pages 53, 54,

and 55. This tabular form makes it possible to give careful study to the balancing of the accommodations. Such a program should be worked out with great care by the superintendent of schools and the junior high school principal, and submitted to the school committee for criticism and approval.

Program 1 illustrates a building for 300 pupils in which extreme economy is observed. It shows how a twelve-room school can be built to accommodate 300 pupils, and provide for a fair variety of work.

Sample program 2 illustrates a building for 500 pupils, in which more liberal provision is made for some types of work.

Sample program 3 shows how a junior high school for 1,000 pupils can be built and operated more economically than can two schools for 500 pupils each.

These programs are only suggestive, and of course would need to be modified in order to meet the actual conditions in any given school.

It should be noted that the special rooms are given first, and classrooms afterward. This plan of computation is in marked contrast with the usual method of calling for a given number of classrooms and regarding special rooms as additional rooms. Many of the special rooms can and should be used as home rooms. Consequently, classrooms need never, in order to provide home seats, be made to accommodate a larger number of pupils than can properly recite at one time. It is a waste of space to make a classroom large enough to accommodate more than 35 pupils.

In the following tables the column headed "teachers" is intended to show how many teachers could work continuously in the various rooms provided. The column headed "home pupils" shows the number of pupils who can be accommodated in any room as home-room pupils. The column headed "floor" should be filled out for only a part of the rooms, so that the architect may have latitude in the planning. The last column, headed "dimensions," may also be left blank for the use of the architect.

On page 55 there is given a list of the rooms which should be considered for administrative purposes, and on page 56 a table suggesting the articulation of rooms for easy and effective administration.

PROGRAM OF ROOMS FOR INSTRUCTIONAL PURPOSES NO. 1.
Two-story Junior High School Building for 300 Pupils and 12 Teachers.

[This illustrates a building in which extreme economy is observed.]

Room.	USES.		Chief Equipment.	Teach- ers.	Home Pupils.
	Distinctive.	Supplementary.			
1 {	Woodworking, . . .	- -	Benches, lathes, power machines, printing.	1	-
	Printing, . . .				
2 {	Cooking, . . .	- -	Tables, ranges, . . .	1	30
	Sewing, . . .				
3 {	Mechanical drawing, .	- -	Desks, . . .	1	35
	Freehand drawing, .				
4 {	Bookkeeping, . . .	- -	Flat-top desks, type- writers.	1	35
	Typewriting, . . .				
5	Elementary science, .	Recitation, .	Tables, . . .	1	35
6	Gymnasium — Audito- rium.	Music, . . .	- -	1	-
7	Library, . . .	- -	Tables, . . .	1	-
8	Classroom, . . .	Recitation, .	Desks, . . .	1	35
9	Classroom, . . .	Recitation, .	Desks, . . .	1	35
10	Classroom, . . .	Recitation, .	Desks, . . .	1	35
11	Classroom, . . .	Recitation, .	Desks, . . .	1	35
12	Classroom, . . .	Recitation, .	Desks, . . .	1	35
	Theoretical totals, .	. . .	. . .	12	310

PROGRAM OF ROOMS FOR INSTRUCTIONAL PURPOSES No. 2.

Two-story Junior High School Building for 500 Pupils and 20 to 22 Teachers.

Room.	Uses.		Chief Equipment.	Teachers.	Home Pupils.
	Distinctive.	Supplementary.			
1	Woodworking, . . .	- -	Benches, lathes, power machinery.	1	-
2	Metal working, . . .	- -	Various, . . .	½	-
3	Printing, . . .	- -	Presses, cases, . . .	½	-
4	Kitchen, . . .	- -	Tables, ranges, . . .	1	-
5	Sewing, . . .	- -	Tables, . . .	1	30
6	Mechanical drawing, .	Recitation, .	Desks, . . .	1	35
7	Freehand drawing, .	Recitation, .	Stands, . . .	1	35
8	Bookkeeping, . . .	Recitation, .	Flat-top desks, . . .	1	35
9	Typewriting, . . .	- -	Tables, . . .	1	-
10	Elementary science, .	Recitation, .	Tables, . . .	1	35
11	Elementary science, .	Recitation, .	Tables, . . .	1	35
12	Gymnasium, . . .	- -	- -	1 or 2	-
13	Auditorium, . . .	Music, . . .	Opera chairs, . . .	1	-
14	Library, . . .	- -	Tables, . . .	1	-
15	Classroom, . . .	Recitation, .	Desks, . . .	1	35
16	Classroom, . . .	Recitation, .	Desks, . . .	1	35
17	Classroom, . . .	Recitation, .	Desks, . . .	1	35
18	Classroom, . . .	Recitation, .	Desks, . . .	1	35
19	Classroom, . . .	Recitation, .	Desks, . . .	1	35
20	Classroom, . . .	Recitation, .	Desks, . . .	1	35
21	Classroom, . . .	Recitation, .	Desks, . . .	1	35
22	Classroom, . . .	Recitation, .	Desks, . . .	1	35
23	Classroom, . . .	Recitation, .	Desks, . . .	1	35
	Theoretical totals, .	. . .	. . .	23	520

PROGRAM OF ROOMS FOR INSTRUCTIONAL PURPOSES NO. 3.

Three-story Junior High School Building for 1,000 Pupils and 36 to 40 Teachers.

[Showing that one 1,000-pupil junior high school can be built and maintained with greater economy and efficiency than can two 500-pupil schools.]

Room.	USES.		Chief Equipment.	Teach-ers.	Home Pupils.
	Distinctive.	Supplementary.			
1	Woodworking (double),	- -	Benches, lathes, power machinery.	2	35
2	Metal working, . .	- -	Various, . . .	1	-
3	Printing, . . .	- -	Presses, cases, . .	1	-
4	Cooking, . . .	- -	Tables, ranges, . .	1	35
5	Cooking, . . .	- -	Tables, ranges, . .	1	35
6	Sewing (double), . .	- -	Tables, . . .	2	35
7	Mechanical drawing, .	- -	Desks, . . .	1	35
8	Freehand drawing (double).	- -	Stands, . . .	2	70
9	Bookkeeping, . .	Recitation, .	Flat-top desks, . .	1	35
10	Typewriting, . . .	- -	Tables, . . .	1	-
11	Elementary science, .	Recitation, .	Tables, . . .	1	35
12	Elementary science, .	Recitation, .	Tables, . . .	1	35
13	Elementary science, .	Recitation, .	Tables, . . .	1	35
14	Gymnasium (double), .	- -	- -	2	-
15	Auditorium, . . .	Public speaking,	Opera chairs, . .	1	-
16	Library, . . .	- -	Tables, . . .	1	-
17	Music room, . . .	Recitation, .	Opera chairs, . .	1	-
18 to 36	19 classrooms, . .	Recitations, .	Desks, . . .	19	665 ¹
	Theoretical totals, .			40	1,050

¹ Thirty-five pupils each.

FOR ADMINISTRATION.

In addition to the rooms for instructional purposes mentioned above a junior high school building should also provide —

- | | |
|--------------------------------|------------------------------------|
| 1. Offices for administration. | 7. Health department. |
| 2. Book and supply room. | 8. Emergency sick room. |
| 3. Library accessories. | 9. Toilets. |
| 4. Lunch room and accessories. | 10. Bicycle room. |
| 5. Gymnasium accessories. | 11. Heating plant. |
| 6. Teachers' rooms. | 12. Janitor's office and supplies. |

ARTICULATION OF ROOMS.

The correlation of certain facilities is suggested in the following table: —

1. Main office	{	Principal's office. Vault. Books and supplies. Toilet. Emergency.
2. Auditorium-gymnasium	{	Dressing rooms. Showers. Instructors. Physicians and nurses.
3. Library	{	Library classroom. Librarian's workroom. Conference rooms. Teachers' study.
4. Lunch room	{	Lunch kitchen. Domestic science — other home economics rooms.

XXIV. EQUIPMENT.

The following recommendations are made regarding equipment: —

1. *Drawing* room or rooms. If the school is large enough to warrant two drawing rooms, one room should be equipped with drafting tables and stools for mechanical drawing, and the other with stands and stools for freehand drawing, and each room should be large enough to accommodate all the work in its field. If only one drawing room can be provided it should have individual drafting tables and stools. Closets and drawers should be provided for drawing materials, objects, and the more complicated instruments. Two sides of the room should be burlapped, and blackboards should be provided on the third side.

2. A *bookkeeping* room with proper individual desks for bookkeeping, filing cases for papers and sets; sample files; and an adding machine and mimeograph for the teaching of office work.

3. One or more *social studies* rooms equipped with cases and drawers for samples and supplies. A small electric lantern, and slides for the teaching of geography, history, and civics.

The above rooms should be used as home rooms, as indicated in the preceding chapter.

4. A single *typewriting* room large enough to accommodate all the machines needed in the school. It is suggested that the machines be of three different makes.

5. A *sewing* room large enough for all the work of the school in this field, fitted with individual tables and ordinary chairs; cabinets in which to keep supplies and finished or unfinished work, the cabinets of the right height for the top to be used for cutting, ironing, etc.; at least three sewing machines, one of which is supplied with power; one or more electric flatirons; and a sample case for display of cloths, etc.

6. One or more *cooking* rooms with a sufficient number of strong, convenient cooking tables, each designed for two pupils; a good serviceable gas plate for each pupil; two six-burner gas stoves with ovens; a coal range is desirable; a large sink; two set tubs; closets for dishes; ice chest.

7. A *woodworking* room with sufficient bench space to accommodate all the work of the school in this field; one or more construction benches; a large convenient closet for keeping surplus tools, also a tool room; stock room; finishing room; chests of drawers for hardware and other material; boards for blue prints and working drawings; cabinets in which to keep work.

8. One or more *elementary science* rooms, each with a single table for demonstration, with gas or electricity; cabinet with drawers; some simple apparatus, a considerable portion of which should be made by the pupils.

9. A *printing* room with one 10 by 15 inch press, motor-driven, with necessary accessories; also smaller press for card work; twelve to sixteen full-sized cases; six to ten styles of type, of required point; imposing stone; lead and rule cutter; miter machine; paper cutter and proof press.

10. *Shops* for other types of industrial and technical work should be provided if possible.

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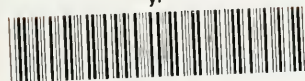
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